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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

VO, TUNG T

ART UNIT PAPER NUMBER

2613

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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# Office Action Summary

Application No.

09/773,154

Applicant(s)

BRULS, WILHELMUS HENDRIKUS  
ALFONSUS

Examiner

Tung T. Vo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Specification*

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this *invention*," "The disclosure describes," "*the invention*," etc.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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4. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Carr (US 6,118,823).

Re claims 1 and 4, Carr discloses a video encoder and its method (fig. 1) for predictively encoding images with reference to one reference image in a first (P) prediction mode and to two reference images in a second (B) prediction mode (col. 6, lines 39-46; e.g. the predicted pictures, P pictures, are formed by motion vectors of the input picture and a previous picture of the sequence; the bi-directional pictures, B pictures, are formed by motion vectors of the input picture with the previous picture (past) and the future picture of the sequence), wherein the encoder comprises:

a motion estimation circuit using a first interval of a frame encoding period in the second (B) prediction mode called a bi-directional prediction mode to carry out the step of searching motion vectors representing motion between an input image and one of said two reference images (41, 42, and 43 of fig. 1; e.g. the motion estimation circuit (41) estimates motion vectors between the input picture as current MB data (111 of fig. 1) with the Intra picture, I picture as reference MB data that stored in the frame memory (42); see also col. 6, lines 42-46), and

using a second interval of said frame encoding period to search motion vectors representing motion between said input image and the other one of said two reference images (41, 42, and 43 of fig. 1 e.g. the motion estimation (41) also estimates the motion vectors between the input picture as current MB data (111 of fig. 1) with the predicted picture named P picture as reference MB data that stored in the frame memory (42) to form the B picture; see also col. 6, lines 42-46);

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characterized in that the motion estimation circuit (41 of fig. 1) is arranged to use the first interval of the frame encoding period in the first (P) prediction mode to search motion vectors representing motion between an input image and said one reference image (41, 42, and 43 of fig. 1; e.g. the motion estimation (41) also estimates the motion vectors between the input picture as current MB data (111 of fig. 1) with the Intra frame or predicted frame, I or P frame as reference MB data, that is stored in the frame memory (42) to form a P picture; motion vectors are generated from "I" and "P", and are used to form "P" and B pictures; see also col. 6, lines 42-46),

and to use the second interval of said frame encoding period to refine the motion vectors found in the first interval (901 of fig. 5; the figure 5 of Carr shows the encoder chip connection; wherein the Refinement chip (901 of fig. 9) capably refines the motion vectors estimated in the first interval of the B picture mode; and motion estimation (903 of fig. 9) can support field, frame dual prime, bidirectional motion types to half pixel (pel) resolution along with I, P, and B pictures; see also col. 8, lines 26-47; col. 14, lines 22-25).

Re claims 2 and 5, Carr further discloses the motion estimation circuit is arranged to search and select a motion vector from among a plurality of given candidate motion vectors (801 of fig. 8; e.g. the motion estimation circuit (41 of fig. 1) estimation the motion vectors between the past image and future image and then selects the best motion vector, best match; see col. 8, lines 55-63),

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said candidate motion vectors in the second interval being formed by predetermined variations of the motion vector found in the first interval ((801 of fig. 8; e.g. the processor capably performs full search in the first interval and half search in the second interval, wherein the motion vectors in the half search are formed by the refinement of the motion vectors in the full search; col. 13, lines 35-65).

Re claims 3 and 6, Carr further discloses wherein said reference image in the first prediction mode is a previous image of a sequence of images (col. 5, lines 49-55),

one of the reference images in the second prediction mode is a previous image of said sequence (col. 5, lines 44-49),

and the other one of the reference images in the second prediction mode is a subsequent image of said sequence (col. 5, lines 44-49).

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Carr et al. (US 6,081,622) discloses an optimized field-frame prediction error calculation method and apparatus in a scalable MPEG-2 compliant video encoder.

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***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung T. Vo whose telephone number is (703) 308-5874. The examiner can normally be reached on 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris. Kelley can be reached on (703) 305-4856. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

**TUNG T. VO**  
**PATENT EXAMINER**

T.Vo  
April 18, 2003

Tung T. Vo  
Examiner  
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